


		<b>K-8 Mathematics Alliance</b>
		<b>Assessment Training</b>
		<b>September 24-27, 2007</b>
		<b>Green River Regional Educational Cooperative</b>
		Facilitated by: Catherine Garrison
		

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		<b>Today's Targets:</b>
		<b>I can:</b>
		<input type="checkbox"/> Distinguish between <i>Formative</i> and <i>Summative</i> assessment;
		<input type="checkbox"/> Recognize the <i>5 Key Strategies</i> and discuss their importance for establishing Formative Assessment practices in my classroom;
		<input type="checkbox"/> Describe the data points for <i>Triangulation</i> and how they relate to collecting information about student learning;
		<input type="checkbox"/> Establish <i>Criteria</i> based on <i>Learning Targets</i> and understand why engaging students in this process activates them as learners; and
		<input type="checkbox"/> Provide <i>Descriptive Feedback</i> to move my students forward in their learning.
		

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		<b>Defining and Differentiating Between Formative and Summative Assessment</b>
		<input type="checkbox"/> Use the graphic organizers to write what you already know about both Formative and Summative Assessment.
		<input type="checkbox"/> Choose a partner to share with and write more based on your conversation.
		<input type="checkbox"/> Watch the 10 minute video from Rick Stiggins.
		<input type="checkbox"/> Revisit your graphic organizer and fill in any gaps.
		<input type="checkbox"/> Be prepared to share with the whole group.
		

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## Three Types of Assessment

	<i>Summative</i>	<i>Benchmark</i>	<i>Formative</i>
Key Question	Do you understand? (yes or no)	Is the class on track for proficiency?	What do you understand?
When Asked	End of unit/ term/year	6 – 10 times per year	Ongoing
Timing of Results	After instruction ends	Slight delay	Immediate

"Informative Assessments," Harvard Education Letter, 2008

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## Tasting the Soup

*When the cook tastes the soup, that's  
**formative assessment.***

*When the customer tastes the soup, that's  
**summative assessment.***

Black (1998)




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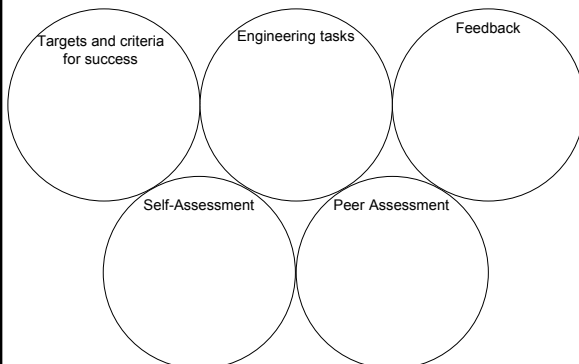
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## 5 Key Strategies




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## The 5 Key Strategies of Formative Assessment

- ☐ Clarifying and sharing learning intentions and criteria for success
- ☐ Engineering effective classroom discussions, questions, and learning tasks
- ☐ Providing feedback that moves learners forward
- ☐ Activating students as the owners of their own learning
- ☐ Activating students as instructional resources for one another

From "Classroom Assessment: Minute by Minute, Day by Day" Leahy, Lyon, Thompson, William. 2005.



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## Clarifying and Sharing Learning Intentions and Criteria for Success

### Ask:

- ☐ Do my students know and can they articulate what they are learning?
- ☐ Do my students know what quality work looks like and what my expectations are?
- ☐ Do my students know what they need to do to be successful?



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## Engineering Effective Classroom Discussions, Questions and Learning Tasks

### Ask:

- ☐ Do I provide opportunity for students to engage in discussions about their learning with me and/or between peers?
- ☐ Do I write questions, both oral and written, that take students' thinking to deeper levels and provides me with more information about how much they may know?
- ☐ Do I create a variety of tasks based on targeted goals to engage students in multiple ways during the learning process?



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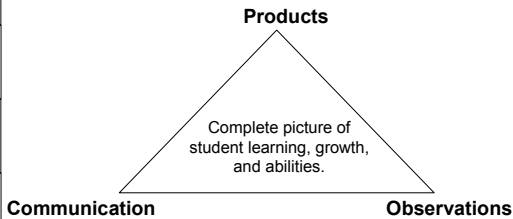
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## Triangulating Information Gathering



Ministry of Education, Province of British Columbia 1991



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## Providing Feedback That Moves Learners Forward

### Ask:

- ☐ Do I allow for ungraded practice?
- ☐ Do I describe for individual students what their next steps need to be to move forward?
- ☐ Do I base my feedback on previously established targets and criteria for success?



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## Activating Students as the Owners of Their Own Learning

### Ask:

- ☐ Do I engage students in the process of setting criteria?
- ☐ Do I provide opportunity for students to self-assess using previously established criteria and exemplars?
- ☐ Do I expect students to keep records of their learning so they can articulate to others about their progress?



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## Activating Students as Instructional Resources for One Another

### Ask:

- ☐ Do I have a classroom culture where students accept each other as resources for information?
- ☐ Do I provide opportunity for students to work together using previously established criteria and exemplars as a guide to success?
- ☐ Do students engage each other in discussions about their work evaluating it using criteria and exemplars?



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## Tangram Activity

- ☐ Each table group needs to choose one person who will function as the teacher. Others at the table will be the students.
- ☐ The teacher will write the students' names on the Observation Checklist Template.
- ☐ We will determine the target and criteria based on the task and the teacher will write those on the template.
- ☐ The students will engage in the task *INDIVIDUALLY* and the teacher will record what is observed.
- ☐ That teacher will provide feedback to the students.



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## K-1 Task

Each student will have one set of 7 Tangrams.

Before task:

- ☐ Please find the square and hold it up. If you are not sure ask your neighbor.
- ☐ How do we know this is square? Does anyone know what shape this is (triangle)? How do we know this is not a square?

Task:

What are all of the ways that you can make squares using the Tangram pieces? Do this by yourself first; we will share our ideas when we are done.



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## 2-3 Task

Each student will have one set of 7 Tangrams.

Before task:

- ☐ Please find the square and hold it up.
- ☐ How do know we this is square? Does anyone know what shape this is (parallelogram)? How do we know this is not a square?

Task:

What are all of the ways that you can make squares using the Tangram pieces? Do this by yourself first; we will share our ideas when we are done.



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## 4-5 Task

Each student will have one set of 7 Tangrams.

Before task:

- ☐ Please find the parallelogram and hold it up. If you are not sure ask a neighbor.
- ☐ Even though a parallelogram has four sides, what makes it different from a square?

Task:

Jane has made a square cake which she has cut into 7 strange pieces.

- A. Recreate her unusual cake with your seven Tangram pieces. Do this by yourself.
- B. If Jane sells the square piece for a dollar how much should she charge for each of the other pieces? Be prepared to share your answer with your teacher.



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## 6-8 Task

Each student will have one set of 7 Tangrams.

Before task:

- ☐ Please find the parallelogram and hold it up.
- ☐ Even though a parallelogram has four sides, what makes it different from a square?

Task:

- A. Using all 7 pieces in your Tangram set, make a square.
- B. If all of the pieces together represent 100%, which pieces could be used to represent 50%?
- C. How many different ways can you choose pieces to represent 50%?



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## Tangram Task as a Group Activity

- ☐ If the same task were to be used with a small group, how would the criteria change?
- ☐ How would the feedback change?



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## The Learning Gap

Formative assessment is the means to identify the “gap” between a learner’s current status and the desired learning goal. Different students will have different “gaps”  
Sadler, 1989

The linchpin of Formative Assessment classroom practice is feedback.

This is how students move forward and close their gaps.



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## Feedback vs. Grades/Marks

- ☐ *Grades/Marks*: Students first look at theirs and then their neighbors.
- ☐ *Grades/Marks and Comments*: Students ignore the comment and look only at the grade/mark.
- ☐ *Comments Only*: Students can reflect on their learning and are spurred by specific insight on what they can do differently next time.



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## All Feedback Is Not Created Equal

“...A bland, non-helpful comment such as ‘Good work, Jaspaul, this is much neater and seems to show that you have tried hard’ will not show any significant change in attainment because it says nothing about the individual’s learning.... Students are not good at knowing how much they are learning, often because we as teachers do not tell them in an appropriate way.”

Derek. Century Island School Assessment for Learning, 2005



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## Grades and Grading

- ☐ How many of you would have passed your driving test if it were the first time you had been behind the wheel of a car?
- ☐ How many of you would have passed your driving test if every practice had received a grade based on your errors and they were averaged together?

For example: Out of 3 practice drives you:

- On the first one put the car in reverse instead of drive and were given a 0 and no opportunity to make it up.
- Hit the curb on the next and were given 50% and no opportunity to try again.
- Did fine on the third and received 85%
- Average: 45



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## Grades and Grading

- ☐ When grades are given, they should be reflective of specific standards (dimensions) and/or targets.
- ☐ When multiple dimensions are tested and the grade is averaged, there is no clear picture of what a student understands and does not understand.
- ☐ A well designed summative assessment that clearly delineates specific dimensions, can be used to set goals for student learning and offer the appropriate method for further differentiation.



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## Example:

	Dimension A	Dimension B	Total Score
Student 1	2	10	12
Student 2	10	2	12
Student 3	6	6	12

Test of 20 items

—Dimension A: 10 items are specific to addition and subtraction

—Dimension B: 10 items, not related to Dimension A, geometric figures

From: Classroom Assessment & Grading that Work",  
Robert Marzano 2006.

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## Evaluative and Descriptive Feedback—Examples

Evaluative Feedback:

A-  
7/10



"Good work."

"You've done well."

Descriptive Feedback:

"You have answered these problems correctly. For these two, you did not carry the place value over to the next column and add it in. When adding multiple digit numbers next time, be sure you remember to carry the place value over before you add. Use a partner to help you check your work"




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## Descriptive Feedback Activity

- ☐ Each table group will be asked to respond to a specific piece of student work.
- ☐ Read through the question and corresponding scoring guide.
- ☐ Create descriptive feedback using the template and then transfer the feedback onto chart paper for posting.
- ☐ Be sure to label your feedback with appropriate grade level and score point so others can identify them.




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### Multiple-Choice Example

Maria had 8 crayons in a box. She took 2 crayons out of the box. How many crayons are left in the box?

- a. 2
- b. 6
- c. 8
- d. 10



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### Multiple-Choice Example

Sam has 4 toy trucks. Dale has 6 toy trucks. Which number sentence shows how to find out how many toy trucks Sam and Dale have altogether?

- a.  $4 + 2$
- b.  $4 + 6$
- c.  $6 - 4$
- d.  $4 - 2$



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### Multiple-Choice Example

Debbie keeps her marble collection in a jar. Of the 50 marbles in the jar, 15 are red, 10 are blue, 20 are green, and 5 are yellow. Debbie randomly chooses 30 marbles from the jar. How many of these marbles can she expect to be red?

- A. 3 marbles
- B. 6 marbles
- C. 9 marbles
- D. 12 marbles



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## Multiple-Choice Format

A school bus holds 36 high school students. If 1,128 high school students are being bused to a special event, how many buses are needed?

- a. 12
- b. 31
- c. 31.33
- d. 32

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## Work Between Now and February

- ☐ Read the article *Classroom Assessment: Minute by Minute, Day by Day*. Respond to these two questions;
  - ☐ What did you read in this article that is reflective of your current classroom assessment practices?
  - ☐ What makes these **formative assessment** strategies and techniques instead of just good teaching techniques?
- ☐ Engage your students in criteria setting. Reflect on the process and be prepared to share your findings.
- ☐ Choose a specific classroom task/assignment to respond to using descriptive feedback. Bring samples with you next time and be prepared to reflect and discuss with your table group.



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**Thank you for your participation!**  
**See you in February.**



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